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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/747,677	12/22/2000	V. Michael Bove JR.	WMI-004CN5	4961

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EXAMINER
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KOENIG, ANDREW Y

ART UNIT	PAPER NUMBER
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2611

DATE MAILED: 08/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/747,677

**Applicant(s)**

BOVE ET AL.

**Examiner**

Andrew Y. Koenig

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 52-89 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 52-89 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 27 May 2005 have been fully considered but they are not persuasive.

The applicant argues that Kim fails to teach or suggest the recited, "single mask including data for a plurality of mask overlays corresponding to a plurality of [regions/objects] in one of said plurality of video frames." (see Remarks/Arguments: pg. 15, ll. 1-4), specifically, Kim does not include "data for a plurality of mask overlays corresponding to a plurality of [regions/objects]. In one of said plurality of video frames, where these "mask overlays" are then actuated by a viewer to cause "switching from presenting to said viewer a first of one of said plurality of multiplexed video streams to presenting to said viewer a second one of said plurality of multiplexed video streams." (see Remarks/Arguments: pg. 15, ll. paragraph 3).

The examiner disagrees; Kim is introduced to teach an alternative method for identifying objects within a single frame, specifically a single mask including data for a plurality of mask overlays corresponding to a plurality of [regions/objects] in one of said plurality of video frames (see Kim: col. 2, ll. 54-67). Whereas it is recognized that the mask overlays of Kim are not actuated by a viewer to cause switching from presenting to said viewer a first of one of said plurality of multiplexed video streams to presenting to said viewer a second one of said plurality of multiplexed video streams, such is taught by the combination of Kaiser and Freeman. One of ordinary skill in the art recognizes

the benefits of the providing the alternative overlay scheme of Kim for efficiently and uniquely code plural objects within a frame.

The applicant argues that the segmentation mask does not replace Kaiser's single object HTML table and provides no other alternatives to Kaiser's HTML table that would provide for a "single mask including data for a plurality of mask overlays corresponding to a plurality of [regions/objects] in one of said plurality of video frames" (see Remarks/Arguments: pg. 16, ll. paragraph 1)

The examiner disagrees; Kim provides an alternative method from Kaiser (HTML table for identifying an object) by identifying plural images within a frame using a single mask corresponding to one of said plurality of video frame. One of ordinary skill would readily recognize different types of masks can be used for the purpose of identifying images within a frame.

Further, the applicant argues that Kaiser, Freeman, and Kim fail to teach or suggest a "single mask" that includes "location and shape information of said plurality of regions in one of said plurality of video frames" (see Remarks/Arguments: pg. 16, ll. paragraph 3).

The examiner disagrees; Kim teaches a single mask that includes plural images, wherein "each object can be easily identified by the label of the pixels in an object" (Kim: col. 2, ll. 66-67), wherein the "the segmentation mask a label identifying the region it belongs to" (Kim: col. 2, ll. 56-58). In other words, each object(s) can be easily

identified by a label, wherein the label identifies the region to which it belongs (e.g. location and shape information), wherein the location and shape is identified by the pixels identified by the mask.

For the above reasons, the applicant's arguments are not persuasive.

***Information Disclosure Statement***

2. The information disclosure statement filed 16 August 2005 has not been considered because corresponding image is not available at the time of examination. Consequently, the information disclosure statement will be reviewed in the next action.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 52-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,615,408 to Kaiser et al. in view of U.S. Patent 5,861,881 to Freeman et al. and U.S. Patent 6,028,964 to Kim.

Regarding claims 52, 55, 58, 64, 67, 70, Kaiser teaches a visual highlight as shown in figure 6B, which reads on a mask generator for providing a plurality of overlays over a series of frames. Kaiser teaches a receiver for receiving the streams

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and receiving user input (fig. 1, label 1300). Further, Kaiser teaches placing plural placement zones regions in a plurality of frames thereby permitting a plurality of zones to be presented simultaneously (col. 6, ll. 25-34).

Kaiser teaches receiving selection input identifying an overlay by selecting an action to be performed (col. 9, ll. 48-65), but Kaiser is silent on switching from one video stream to a second stream. Freeman teaches in response to past user inputs, at trigger points inserting another video stream being concurrently broadcasted (col. 13, ll. 28-45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kaiser by switching video streams as taught by Freeman in order to increase user interactivity and provide desirable programming to the user.

Kaiser teaches a mask generator of a single overlay for a frame of video (fig. 6B), but Kaiser and Freeman are silent on a single mask including data for a plurality of mask overlays corresponding to one video frame. In analogous art, Kim teaches a identifying plural images within a frame by using pixels constituting the objects, wherein the background is represented as a zero value, and object pixels have one of non-zero values 1, 2, ..., 255, identifying the object (col. 2, ll. 54-67), which equates to a single mask including data for a plurality of mask overlays corresponding to one video frame.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kaiser and Freeman by using a single mask including data for a plurality of mask overlays corresponding to one video frame as taught by Kim in order to efficiently and uniquely code plural objects within a frame.

Regarding claims 53, 56, 59, 65, 68, 71, Kaiser teaches sending input to a remote location via a backchannel communications connection, as shown in figure 1 with the Internet as the data network (col. 5, ll. 45-54).

Regarding claims 54, 57, 60, 66, 69, 72, Kaiser teaches location and shape information of the regions (fig. 6B, col. 10, ll. 20-41).

Regarding claims 61 and 73, Kaiser is silent on a plurality of video stream identifiers associated with one of the plurality of video streams. Official Notice is taken that PIDs are well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kaiser by using PIDs in order to identify one of the plurality of program streams thereby enabling the receiving device to decode desirable packets of data. Kaiser teaches a visual highlight as shown in figure 6B, which reads on a mask overlay. Kaiser teaches placing plural placement zones regions in a plurality of frames thereby permitting a plurality of zones to be presented simultaneously (col. 6, ll. 25-34). Kaiser teaches receiving selection input identifying an overlay by selecting an action to be performed (col. 9, ll. 48-65). The mask has corresponding actions that can be taken (fig. 6C, 6D, label 6400), which equates to a first data structure element. Kaiser teaches an action resource retrieval step (col. 9, ll. 48-65), which reads on a second data structure element, but is silent on switching from one video stream to a second stream. Freeman teaches in response to past user inputs, at trigger points inserting another video stream being concurrently broadcasted (col. 13, ll. 28-45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kaiser by switching

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video streams as taught by Freeman in order to increase user interactivity and provide desirable programming to the user.

Kaiser teaches a mask generator of a single overlay for a frame of video (fig. 6B), but Kaiser and Freeman are silent on a single mask including data for a plurality of mask overlays corresponding to one video frame. In analogous art, Kim teaches a identifying plural images within a frame by using pixels constituting the objects, wherein the background is represented as a zero value, and object pixels have one of non-zero values 1, 2, ..., 255, identifying the object (col. 2, ll. 54-67), which equates to a single mask including data for a plurality of mask overlays corresponding to one video frame.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kaiser and Freeman by using a single mask including data for a plurality of mask overlays corresponding to one video frame as taught by Kim in order to efficiently and uniquely code plural objects within a frame.

Regarding claims 62 and 74, Kaiser teaches location and shape information of the regions (fig. 6B, col. 10, ll. 20-41).

Regarding claims 63 and 75, Kaiser is silent on an audio and private data stream associated with the first one of the said plurality of video streams. Official Notice is taken the associating an audio and private data stream with video is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kaiser by associating an audio and private data stream with video in order to organize related data thereby enabling the receiver to efficiently access different streams.



5. Claims 76-80 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,615,408 to Kaiser et al. in view of U.S. Patent 5,861,881 to Freeman et al., U.S. Patent 5,818,438 to Howe et al., and U.S. Patent 6,028,964 to Kim.

Regarding claim 76, Kaiser teaches a visual highlight as shown in figure 6B, which reads on a mask generator for providing a plurality of overlays. Kaiser teaches a receiver for receiving the streams and receiving user input (fig. 1, label 1300). Further, Kaiser teaches placing plural placement zones regions in a plurality of frames thereby permitting a plurality of zones to be presented simultaneously (col. 6, ll. 25-34), however Kaiser is silent on providing an indication of additional information in order to generate zones in response to a user command. Howe teaches providing an icon as an indication that additional content is available and in response to seeing the button, receiving a request to retrieve information (col. 4, ll. 30-50, col. 29, ll. 12-27). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kaiser by providing an indication of content and receiving user input to perform an action associated with the icon as taught by Howe in order to investigate subject matter more thoroughly and according to his or her own tastes (Howe: col. 2, ll. 48-50). Further, Kaiser teaches receiving selection input identifying an overlay by selecting an action to be performed (col. 9, ll. 48-65), but Kaiser is silent on switching from one video stream to a second stream. Freeman teaches in response to past user inputs, at trigger points inserting another video stream being concurrently broadcasted (col. 13, ll. 28-45). Therefore, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to modify Kaiser by switching video streams as taught by Freeman in order to increase user interactivity and provide desirable programming to the user.

Kaiser teaches a mask generator of a single overlay for a frame of video (fig. 6B), but Kaiser, Freeman, and Howe are silent on a single mask including data for a plurality of mask overlays corresponding to one video frame. In analogous art, Kim teaches a identifying plural images within a frame by using pixels constituting the objects, wherein the background is represented as a zero value, and object pixels have one of non-zero values 1, 2, ....., 255, identifying the object (col. 2, ll. 54-67), which equates to a single mask including data for a plurality of mask overlays corresponding to one video frame.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kaiser, Freeman, and Howe by using a single mask including data for a plurality of mask overlays corresponding to one video frame as taught by Kim in order to efficiently and uniquely code plural objects within a frame.

Regarding claim 77, Kaiser teaches an overlay associated with a first timing data, wherein the overlay is synchronized with the video frame based on the timing (fig. 2, 6B, col. 6, ll. 18-33, col. 10, ll. 39-41).

Regarding claim 78, Kaiser is silent on comparing the times of data, sleeping for a period equivalent to the difference and awakening for visually identifying the object in response to an expiration of the time period. Official Notice is taken that use of a countdown timer is well known in the art, as is determining the time between events. Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify Kaiser by using a countdown timer and determining the time between events in order to set an event in the processor to perform an action at the predicted time of the next event, thereby reducing the processing tasks and enabling the processor to perform other functions simultaneously.

Regarding claim 79, Kaiser teaches actions (as shown in figure 6C-6D), which read on an annotation data associated with the object (col. 9, ll. 52-65), which is associated with the trigger zone (col. 9, ll. 29-51). Kaiser is silent on removing the data structure in response to determining that the item is no longer used. Official Notice is taken that removing expired information is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kaiser by removing expired information in order to remote the data structure from memory thereby conserving memory and efficiently managing the memory resources.

Regarding claim 80, Kaiser is silent on encoding the data structure and image overlay data into a packet stream as recited. Official Notice is taken that PIDs are well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kaiser by using PIDs in order to identify one of the plurality of program streams thereby enabling the receiving device to decode desirable packets of data.

6. Claim 81 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,615,408 to Kaiser et al., U.S. Patent 5,861,881 to Freeman et al., U.S. Patent

5,818,438 to Howe et al., and U.S. Patent 6,028,964 to Kim in view of U.S. Patent 6,282,713 to Kitsukawa et al.

Regarding claim 81, Kaiser teaches encoding the trigger prior to receipt of the video (col. 8, ll. 14-23), and receiving data structure and the overlay data after the receipt of the video at the receiver. Kitsukawa teaches receiving overlay and coupon information prior to the receipt of the video (col. 6, ll. 51-60). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kaiser by receiving the overlay and coupon information prior to receiving the video as taught by Kitsukawa in order to provide potential customers with product information and incentives to purchase that exploits the convenience of electronic purchasing (col. 1, ll. 49-55).

7. Claims 82-89 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,615,408 to Kaiser et al., U.S. Patent 5,861,881 to Freeman et al., U.S. Patent 5,818,438 to Howe et al., U.S. Patent 6,028,964 to Kim, and U.S. Patent 6,282,713 to Kitsukawa et al. in view of U.S. Patent 6,233,253 to Settle et al.

Regarding claim 82, Kaiser is silent on a fixed number of packets allocated to each of the image overlay data sets, wherein the fixed number of packets corresponds to a number of packets filled by the largest image data set. Settle teaches a method for inserting NULL packets into an MPEG bitstream. Settle teaches determining the multiplexing ratio of the null packets with respect to the video and audio packets (col. 11, ll. 18-35), thereby assigning a fixed number of packets for the data stream, thereby

the fixed number a based on the overall bitrate of the channel (col. 10, ll. 6-35).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kaiser by determining the packets to be encoded, wherein the number of packets is based on the data to be sent as taught by Settle in order to encode at the appropriate multiplexing rate various signals thereby maintaining a constant bit-rate signal to the receiver.

Regarding claim 83, Kaiser is silent on using null packets to fill packets less than the fixed number of packets. Settle teaches using null packets to fill the vacant slots (col. 4, ll. 3-11). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kaiser by using null packets to fill the vacant packet slots as taught by Settle in order to fill the unused data capacity at the output thereby maintaining a constant bit rate signal.

Regarding claim 84, Kaiser is silent on repacking the data stream. Settle teaches replacing the null packets with other data packets (col. 10, ll. 51-60). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kaiser by replacing the null packets with data packets as taught by Settle in order to efficiently distribute data to the receivers. Settle teaches ensuring that the buffers are appropriately filled to prevent buffer overflows and underflows (col. 1, ll. 45-48), but Kaiser and Settle are silent on packing backwards in time. Official Notice is taken that packing data to be received before it is remotely processed is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kaiser by packing

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the data in order to be received before it is needed thereby ensuring that the data can be processed by the receiver thus making the system more robust and readily providing the data to the user.

Regarding claim 85, Kaiser is silent on receiving a packet stream with the video stream. Official Notice is taken that the use of data streams in the video stream is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kaiser by using data streams in the video stream in order to efficiently send data to the user.

Regarding claim 86, Kaiser teaches receiving the packet stream separately with an out-of-band channel (col. 5, ll. 46-51).

Regarding claim 87, Kaiser teaches identifying a first two-dimensional section, wherein the region is associated with the object and includes one or more pixels, as shown in figure 6B. Kaiser teaches filling the region, moving in a first direction along a third dimension (e.g. time) (col. 10, ll. 20-41). By moving the highlighted portions with the frames, the system of Kaiser determines and fills the different sections of the frames with respect to time. Kaiser is silent on returning the original highlighted portion and moving backwards to fill the area. Official Notice that preprocessing on filling targets is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kaiser by filling the area before display in either direction before playback in order to efficiently playback the video with the highlighted regions.

Regarding claim 88, Kaiser teaches a video frame (col. 10, ll. 20-41).

Regarding claim 89, Kaiser teaches the overlays moving with respect to time (col. 10, ll. 20-41).

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Y. Koenig whose telephone number is (571) 272-7296. The examiner can normally be reached on M-Th (7:30 - 6:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Grant can be reached on (571) 272-7294. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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PRIMARY EXAMINER